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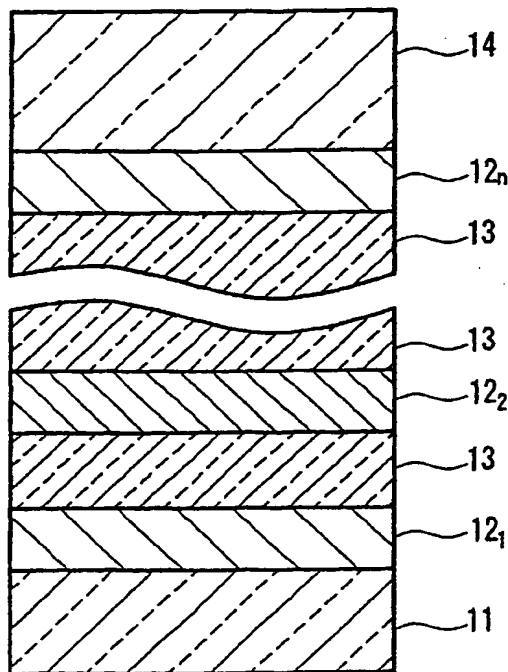
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LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NL

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(54) Title: OPTICAL INFORMATION RECORDING MEDIUM AND METHOD FOR MANUFACTURING SAME

(54) 発明の名称: 光学的情報記録媒体とその製造方法



(57) Abstract: An optical information recording medium comprises the first to  $n$  information layers (here  $n$  is an integer not less than 3) arranged in this order from the side on which a laser light is incident. Each information layer includes a recording layer containing Te, O and M (here M represents at least one element selected from the group consisting of Al, Si, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Ga, Ge, Zr, Nb, Mo, Ru, Rh, Pd, Ag, In, Sn, Sb, Hf, Ta, W, Re, Os, Ir, Pt, Au and Bi). The concentrations of oxygen atom contained in the recording layers of the first to  $n-1$  information layers, namely  $C(1)$  to  $C(n-1)$ , satisfy the following relations:  $C(1) \geq C(2) \geq \dots \geq C(n-2) \geq C(n-1)$  and  $C(1) \neq C(n-1)$ . When the number of the information layers is two, the oxygen atom concentration of the first information layer is made larger than that of the second information layer.

WO 2004/032130 A1

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NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG,  
SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,  
VC, VN, YU, ZA, ZM, ZW.

OAPI 特許 (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,  
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2 文字コード及び他の略語については、定期発行される  
各 PCT ガゼットの巻頭に掲載されている「コードと略語  
のガイダンスノート」を参照。

(57) 要約:

本発明の光学的情報記録媒体には、レーザー光入射側から順に、第 1  
～第  $n$  ( $n$  は、3 以上の整数である。) 情報層が設けられている。全ての  
の情報層は、それぞれ、Te、O 及び M (但し、M は、Al、Si、T  
i、V、Cr、Mn、Fe、Co、Ni、Cu、Zn、Ga、Ge、Z  
r、Nb、Mo、Ru、Rh、Pd、Ag、In、Sn、Sb、Hf、  
Ta、W、Re、Os、Ir、Pt、Au、Bi から選ばれる少なくと  
も一つの元素) を含む記録層を含んでいる。第 1 ～第  $n-1$  情報層の各  
記録層に含まれる酸素原子含有濃度  $C(1) \sim C(n-1)$  は、 $C(1)$   
 $\geq C(2) \geq \dots \geq C(n-2) \geq C(n-1)$  で、且つ、 $C(1) \neq$   
 $C(n-1)$  の関係を満たしている。また、情報層が 2 層の場合は、第  
1 情報層の酸素原子含有濃度を第 2 情報層よりも大きくする。

## INTERNATIONAL SEARCH REPORT

International application No.

T/JP03/12464

## A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl<sup>7</sup> G11B7/24, 7/26, B41M5/26

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl<sup>7</sup> G11B7/24, 7/26

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

|                           |           |                            |           |
|---------------------------|-----------|----------------------------|-----------|
| Jitsuyo Shinan Koho       | 1922-1996 | Toroku Jitsuyo Shinan Koho | 1994-2003 |
| Kokai Jitsuyo Shinan Koho | 1971-2003 | Jitsuyo Shinan Toroku Koho | 1996-2003 |

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages   | Relevant to claim No. |
|-----------|--|-----------------------|
| Y         | JP 2002-251778 A (Matsushita Electric Industrial Co., Ltd.),<br>06 September, 2002 (06.09.02),<br>Full text; all drawings<br>& EP 1215669 A2 | 1-10                  |
| Y         | JP 2002-133712 A (Matsushita Electric Industrial Co., Ltd.),<br>10 May, 2002 (10.05.02),<br>Full text; all drawings<br>& EP 1180767 A2       | 1-10                  |
| Y         | JP 9-7224 A (Hitachi, Ltd.),<br>10 January, 1997 (10.01.97),<br>Full text; all drawings<br>(Family: none)                                    | 1-10                  |

☒ Further documents are listed in the continuation of Box C.☐ See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;"

document member of the same patent family

Date of the actual completion of the international search  
15 December, 2003 (15.12.03)Date of mailing of the international search report  
13 January, 2004 (13.01.04)Name and mailing address of the ISA/  
Japanese Patent Office

Authorized officer

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Telephone No.

## INTERNATIONAL SEARCH REPORT

International Application No.

PCT/JP03/12464

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages  | Relevant to claim No. |
|-----------|---|-----------------------|
| Y         | JP 2002-50053 A (TDK Corp.),<br>15 February, 2002 (15.02.02),<br>Par. No. [0111]<br>& EP 1178472 A2 & US 2002/21656 A1            | 1-10                  |
| Y         | JP 2002-117585 A (TDK Corp.),<br>19 April, 2002 (19.04.02),<br>Par. No. [0100]<br>& EP 1162614 A2 & US 2002/9045 A1               | 1-10                  |
| Y         | JP 60-131650 A (Matsushita Electric Industrial<br>Co., Ltd.),<br>13 July, 1985 (13.07.85),<br>Full text; Fig. 2<br>(Family: none) | 1-10                  |